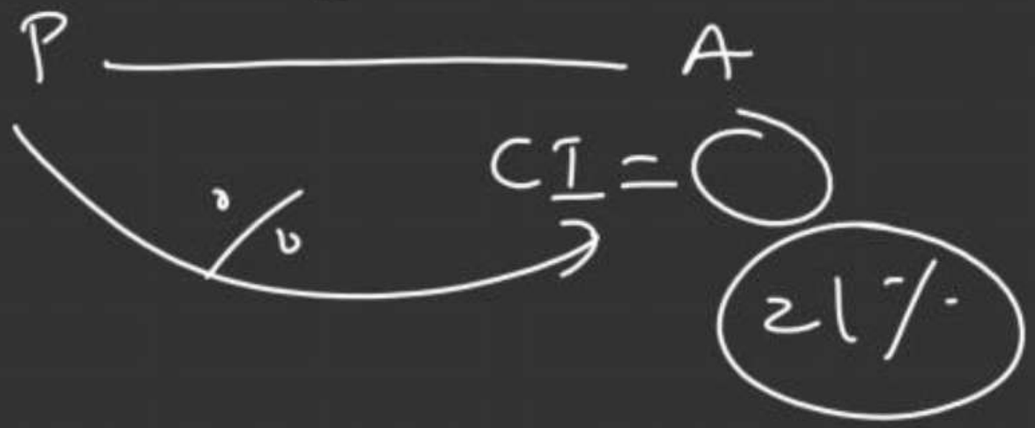
KGS IAS

CSAT (MATHS)

By Dhrub Singh Sir

Rate (%)

Time = 2



$$A = P(1 + r\%)^n$$

$$\Rightarrow \frac{A}{P} = (1 + r\%)^3$$

(a) 9%

(b) 8%

(c) 10%

(d) N.O.A.

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Interest

By Dhrub Sir

10000 — 3 yrs. — A = 17280 | CI = 7280

72.8%

$20 + 20 + \frac{20 \times 20}{100} = 44$

$44 + 20 + \frac{44 \times 20}{100} = 72.8$

13. At what percent per annum , will Rs. 10,000 amount to 17,280 in three years ? (Compound Interest being reckoned)

a. 20%

b. 14%

c. 24%

d. 11%

$1 + r\% = \frac{12}{10}$

$r\% = \frac{12}{10} - 1$

$\frac{r}{14} = \frac{2}{14}$

$r = 20$

13. कितने प्रतिशत वार्षिक दर पर, 10,000 रुपये तीन वर्षों में 17,280 हो जायेंगे? (जब चक्रवृद्धि ब्याज गिना जाता है)

a. 20%

b. 14%

c. 24%

d. 11%

$17280 = 10000\left(1 + r\%\right)^3$

$\Rightarrow \frac{1728}{1000} = \left(1 + r\%\right)^3$

$\Rightarrow \left(\frac{12}{10}\right)^3 = \left(1 + r\%\right)^3$

1331 ——— A = 1728

CI = 397

≈ 30%

9.09 + 9.09 + 9.09 × 9.09 / 100

= 18.18 + .81 ≈ 19

19 + 9.09 + 19 × 9.09 / 100

14. The SBI lent Rs. 1331 to the Tata group at a compound interest and got Rs. 1728 after three years . What is the rate of interest charged if the interest compounded annually?

a. 11% ✗

b. 9.09% ✓

c. 12% ✗

d. 8.33%

$1 + r\% = \frac{12}{11}$

$r\% = \frac{12}{11} - 1 = \frac{1}{11}$

$\frac{r}{100} = \frac{1}{11}$

$r = \frac{100}{11} = 9.09\%$

14. एसबीआई ने चक्रवृद्धि ब्याज पर टाटा समूह को 1331 रुपये उधार दिए और तीन वर्ष बाद उसे 1728 रुपये प्राप्त हुए। यदि ब्याज वार्षिक रूप से संयोजित हो तो ब्याज की दर क्या होगी?

a. 11%

b. 9.09% ✓

c. 12%

d. 8.33%

$1728 = 1331\left(1 + r\%\right)^3$

$\frac{1728}{1331} = \left(1 + r\%\right)^3$

$\left(\frac{12}{11}\right)^3 = \left(1 + r\%\right)^3$

@ 20%

(a) 3 yrs (b) 4 yrs (c) 5 yrs.

(d) N.O.T.

$n=3$

$\left(\frac{6}{5}\right)^3 = \frac{216}{125}$

< 2

$\left(\frac{6}{5}\right)^4 = \frac{1296}{625}$

> 2

$A > 2P$

$P(1+20\%)^n > 2P$

$\left(1+\frac{1}{5}\right)^n > 2$

$\left(\frac{6}{5}\right)^n > 2$

$$100 \xrightarrow{+20\%} 120 \xrightarrow{+20\%} 144 \xrightarrow{+20\%} 173$$

$$+24 \qquad +29$$

$$173 \xrightarrow{+20\%} 207$$

$$+34$$

$$100 \xrightarrow{+25\%} 125 \xrightarrow{+25\%} 156 \xrightarrow{+25\%} 195 \xrightarrow{+25\%} 244$$

$$31 \qquad 39 \qquad 49$$

$$244 \xrightarrow{+25\%} 305$$

$$61$$

15. In what time will Rs. 3300 become Rs. 3399 at 6% per annum interest compounded half yearly?

a. 6 months
b. 1 year
c. 1 ½ year
d. 3 months

15. अर्धवार्षिक संयोजित 6% प्रति वर्ष की चक्रवृद्धि ब्याज पर कितने समय में 3300 रुपये 3399 रुपये हो जायेंगे?

a. 6 महीने
b. 1 वर्ष
c. डेढ़ साल
d. 3 महीने

P

33ω — 3% — A = 35ω·97

CI = 2ω·97

6 + ·1

6·1 -/

$3 + 3 + \frac{3 \times 3}{1\omega}$

= 6·09 -/

20%

SI

10% 10%

1% of P = 54

$\frac{1}{100} \times P = 54$

$P = 54 \times 100$

10% 10%

$10 + 10 + \frac{10 \times 10}{100}$

= 21%

16. If the difference between the simple interest and the compound interest on some principal amount at 20% per annum for 3 years is Rs. 48, then the principal amount must be

a. Rs. 550
b. Rs. 500
c. Rs. 375
d. Rs. 400

16. यदि किसी धनराशि पर 3 वर्ष के लिए 20% वार्षिक दर से साधारण ब्याज और चक्रवृद्धि ब्याज के बीच का अंतर 48 रुपये है, तो धनराशि कितनी होनी चाहिए?

a. रु. 550
b. रु. 500
c. रु. 375
d. रु. 400

SI 30%

3.1% qp = 62 | CI

$\frac{3.1}{100} \times p = 62$

$p = \frac{62 \times 100}{3.1}$

$= 2000$

20% 10%

10% | 10% | 10%

$10 + 10 + \frac{10 \times 10}{100}$

$= 21$

$21 + 10 + \frac{21 \times 10}{100}$

$= 33.1$

THANK YOU!